

PRODUCT DATA SHEET

Standing: 2025-08-27

LAUDA Universa U 420 P

Cooling thermostat 100 V; 50/60 Hz

Part Number: L004435

Features

- Bath circulation thermostat with advanced electronics ensures precise control accuracy
- Future-proof thanks to modularity: LAUDA Universa with interchangeable control head and heating/cooling base allows flexible adaptation to current and future requirements.
- Clear overview, intuitive operation: The 3,5-inch colour TFT display provides a progression graph, offers a clear menu navigation in six languages and easy to read operating status icons - easily controlled via cursor and soft keys.
- Focus on safety: The dedicated Tmax button provides convenient access to the essential overtemperature protection setting during commissioning.
- Efficient vario pump with six adjustable performance levels. The flexible flow distribution for internal and external circulation ensures optimum volume flow and pressure.
- Easily accessible front switch on the control head allows the pump output to be adjusted during operation.
- Energy-efficient refrigeration system: capillary tube technology with speed-controlled inverter compressor and speed-controlled fan - for reduced energy costs and a long service life.
- Environmentally friendly refrigerants: Use of natural refrigerants for sustainable and environmentally conscious cooling.
- Adaptive bath edge ventilation (patent application): - Prevents icing and condensation - Stops water entering the bath - Blocks vapors to protect electronics. To increase operational safety and extend service life.
- Features include programmer, calibration options and weekly scheduler for versatile and precise process control.
- Intelligent remote control and monitoring: Integrated web server allows flexible remote control in the company network via the LAUDA Command app or browser-based, secured by PKI and 2-factor authentication. The connection to LAUDA.LIVE enables global, cloud-based data analysis and remote maintenance.
- Flexible networking: Modern connectivity through integrated Ethernet and USB interfaces as standard, plus eleven optional interface modules for versatile communication solutions.
- Comprehensive safety concept: - Reliable low-level protection with float technology, - Adjustable overtemperature protection with acoustic alarm, - Smart temperature control media management with automatic limit value adjustment. For reliable operation and improved safety of your valuable samples.



Reserve technical changes

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WEEE-Reg.-Nr.: DE 66 42 40 57

Kommanditgesellschaft: Sitz Lauda-Königshofen
Registergericht Mannheim • HRA 560069

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Geschäftsführer:
Dr. Gunther Wobser (Vors.), Dr. Mario Englert,
Dr. Marc Stricker
Beirat: Dr. Gerhard Wobser

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Working temperature min.
-20 °C



Working temperature max.
200 °C

Technical Features

Working temperature range	-20 ... 200 °C
Operating temperature range	-20 ... 200 °C
Ambient temperature range	5 ... 40 °C
Temperature stability	0.02 ± K
Heating capacity range	1.1 ... 1.1 kW
Current max.	12 A
Size of bath (W x D x H)	130 x 100 x 160 mm
Bath opening (WxT)	130 x 100 mm
Bath volume min. / max.	1.8 / 4.0 L
Pump Pressure max.	0,6 bar
Pump flow rate max. (pressure)	22 L/min
In / Outlet connection thread (outside)	M16 x 1
Overall dimensions (WxDxH)	210 x 410 x 616 mm
Weight	26 kg
Refrigerant stage 1	R-600a (GWP 3); 0.030 kg; 0.0 t CO2-eq
Power supply	100 V; 50/60 Hz
Power plug	Power cord with plug (NEMA 5-15P)

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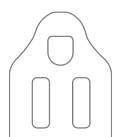
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Power cord with plug (NEMA 5-15P)

Temperature	Pump stage	Heat transfer liquid	Cooling Capacity 50 Hz	Cooling Capacity 60 Hz
200 °C	6	Thermal oil	0.2 kW	0.2 kW
100 °C	6	Thermal oil	0.2 kW	0.2 kW
20 °C	6	Ethanol	0.2 kW	0.2 kW
10 °C	6	Ethanol	0.19 kW	0.19 kW
0 °C	6	Ethanol	0.18 kW	0.18 kW
-10 °C	6	Ethanol	0.14 kW	0.14 kW
-20 °C	3	Ethanol	0.07 kW	0.07 kW

Reserve technical changes

Standard accessories

- 1 Bath cover
- Pump connection set with M16x1 stainless steel connections
- 2 screw caps, 2 closing plugs

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COOLING PERFORMANCE Heat transfer liquid: Ethanol, bath closed

Bath temperature °C



- 1 U 420 P
- 2 U 630 P
- 3 U 635 P
- 4 U 1635 P
- 5 U 1245 P

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PUMP CHARACTERISTIC Heat transfer liquid: Water

Pressure bar



- 1 Stage 1
- 2 Stage 2
- 3 Stage 3
- 4 Stage 4
- 5 Stage 5
- 6 Stage 6

Flow rate L/min

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